

## Calibration Method for Station Orientation

### Abstract

In optical wireless networks, light beams are transmitted over-the-air and maximum performance is achieved when light beams are aligned with corresponding light detectors. A feedback control system is created between transmitting and receiving units, wherein the receiving unit provides positional data about the light beam from the transmitting unit. The transmitting unit uses the data provided to make adjustments to its light beam. However, in order to use the positional data, the units must be operating with a common coordinate basis. A method is provided for determining the basis and generating the transformation needed to modify positional data from one unit into information that is useful for the other unit. Additionally, a method is presented for using the positional data to maintain proper alignment of the light beam.